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Progress Report:

Describe below activities carried out during the grant period just ending.
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Name Understanding School Systems Administration File 410-87-0164

Don Musella

93-00626/

Progress Report

Understanding School Systems Administration

File: 410-87-0164

This study investigates questions not only of the nature of chief executive officers' (CEOs) work in the school system, but also its causes and consequences.

A. Statement of Objectives

1. To identify what it is that captures the time and attention of directors of education (CEOs) and to describe their practices in relation to such issues and problems;
2. To clarify the concept of organizational culture, to explore its sources and to identify its role in organizational change;
3. To examine the relationship between the practices of CEOs and the culture of their school systems;
4. To describe CEOs' thought processes and problem solving strategies;
5. To examine CEOs' educational philosophies and beliefs and their effects on daily practices;
6. To identify other elements of the CEOs' environments which appear to influence their practices and to clarify the nature of that influence, for example, such aspects of the role as isolation and relationships with the board and the Ministry of Education.
7. To explore the relationship between decision making, problem solving and technical support systems.

B. Framework of the Study

The framework for the study conceptualizes CEOs' practices as nested within a larger organizational culture and context which is potentially influenced by such practices but also bounds the nature of such practices in usually quite substantial ways. The nature of CEOs' practices is largely a product of two sets of idiosyncratic variables which are partially interdependent, and on a larger set of environmental constraints and pressures. One set of variables consists of the CEOs' educational philosophies and beliefs as well as a broader set of values and sentiments. The second set of variables includes CEOs' thought processes and problem-solving strategies.

C. Components of the Study

Values and Educational Philosophies and Beliefs. This component of the study investigates the extent to which what one wants to do (in whatever way desire is manifested) is an important factor in what is done. Five questions are being pursued: (a) What are the education belief systems of CEOs? (b) To what extent do CEOs' belief systems affect educational decisions made in school systems: (c) What other values or sentiments underlie the decision making of CEOs? (d) To what extent are CEOs aware of the values influencing their choices? (e) How are these other values and sentiments reflected in the decision making of CEOs?

Mark Holmes' study focuses on the values, beliefs and actions of Ontario CEOs. Two questionnaires were prepared and distributed to all CEOs in Ontario, and to a sample of University of Toronto graduates in the approximate age range of the CEOs. A detailed report on the data obtained from these questionnaires is found in Appendix A. Holmes will follow up these findings by selecting a small sample of CEOs and studying ways in which they believe their beliefs and values have been translated into action.

Thought Processes and Problem Solving Strategies. This component of the research addresses three questions: (a) What is the nature of CEOs' problem solving, including the range of types of problems that CEOs face; the components of the process used to solve a problem and; the way CEOs classify problems; (b) Are there differences in CEOs' problem solving processes depending on: characteristics of the problem; context of the problem (i.e., whether it is solved alone or in a group) and; characteristics of the solver; (c) Are there differences between CEOs and school administrators in the types of problems they are faced with and the demands made on their problem solving processes:

Kenneth A. Leithwood's study has examined aspects of the problem-solving processes of eight chief school executives: how they classified and managed their problems, broad problem solving strategies and influences on their problem solving. Information processing theory and the results of related research carried out with principals provided a framework for the study. Intensive interviews were audiotaped, transcribed and content analyzed.

Results identify criteria CEOs used to prioritize problems, estimate their difficulty and determine the involvement of others. Both direct and underlying "structural" influences on CEOs' problem solving are identified, partly through a comparison of data collected in this study with comparable data collected in a study of elementary school principals. Implications for theory and future research are identified.

One round of data has been collected and further data collection and analysis will take place during year 2 of the project. A detailed report of the study is found in Appendix B.

Directors' Practices Three questions concerning CEOs overt practices are being pursued: (a) How do CEOs spend their time? (b) What values, beliefs and/or objectives guide CEOs as they make decisions about how to spend their time? (c) What are the consequence of CEOs' actions; in particular, do such actions impact on organizational culture and if so on which aspects of that culture?

Alan Brown's study examines the motivation and quality of life of the education CEO. The purpose of his study is to understand the subjective influences on the professional life of the CEO: what it is that is experienced as exciting or deadening and why that is so. Thirty-six CEOs (or 30% of all Directors of Education in Province of Ontario school system) identified three elements of their work or workplace that were interesting, satisfying, rewarding and three that were dull, tedious or frustrating. In a repgrid format, they provided 18 intercomparisons of these elements resulting in each one's own

likert-type questionnaire to yield their structure of actual priorities used when describing their CEO work. They also rank-ordered these same descriptors and gave an estimate of their quality of work life.

Substantive findings are less readily summarized. In general, four themes dominated negative elements: (1) their role as it relates to their Board (a) meetings (b) chair (c) courses of action and (d) malingering trustees, (2) teacher federation (union) dealings, (3) pressure groups and parents and (4) time pressures. How happy it would be, one almost hears, if I could get on with it without always having to justify everything.

Four positive themes included: (1) the interna of education, a well-taught lesson, glowing educational accomplishments, (2) professional interaction with other educators, (3) diversity and variety of demands and opportunities and (4) the broker role, liaising with the public about an education system with a sense of ownership.

Thomas B. Greenfield has focussed on the self and role of the CEO in the culture of school organization. The data collection has consisted of eleven interviews with eleven chief educational officers of Ontario school systems. They explored the sense CEO's have of themselves and their roles within the culture of school organizations. The aim is to develop materials that would provide a basis for reflection and study by senior administrators about their roles and careers and that would foster deeper understanding of the conflicts and problems inherent in their work. Although the CEOs were cooperative and helpful in their contributions to the project, the outcomes of the interviews

revealed limitations in interviews as a method for developing materials for reflective study and analysis. For many CEOs, their roles are nonproblematic and therefore are not a ready source of insight into the stresses, conflicts and ambiguities of administrative performance. Nevertheless some interesting patterns emerged from the preliminary analysis of the interviews. The CEOs were chosen early into their careers; their teaching experience was short, but successful. Their careers provide them with a route of upward social mobility. They distrust the "politics" of educational governance and generally see themselves as representatives of the better values of society against local interests that are narrow, petty, or bigoted. They live with a sense of isolation from their community and from other CEOs. Their points of personal reference and support are limited in number and regional in structure. Other CEOs in positions very similar to their own provide a sense of direction and conviction. Their understandings of their roles and of themselves are little differentiated. A sense of conflict or inner uncertainty is remarkable only by its almost complete absence, even in circumstances that would apparently be fraught with struggles over values, resources, and policies. The CEOs recognize a world around them that is characterized by harmony and hope. They see themselves as working for "the kids" and they are therefore under the obligation not to flag or to give in to negative thinking or useless introspection. They have little sense that they are in need of study or reflection about their roles or the way they approach their tasks. They simply want to get on with their jobs, not to turn over rocks looking for things that would only needlessly distract and frighten.

Richard Townsend's study, "The Director at Work," has focussed on the observation of one Director. He observed this Director at a weekend retreat for his superintendents, at breakfast meetings (one of his chief venues for exerting influence, and initially a controversial approach), at about a half dozen board meetings, and at various other occasions (e.g., a "Celebration of Student Excellence," two meetings with other Directors, his Farewell party). In addition, he interviewed a number of present and former trustees, some of his associates, and various other elements in his community. Throughout different levels of his system, he has become fairly well-known as the Director's shadow. (Perhaps curiously, though, when Townsend recently met the Director's wife, she did not know of his existence; in contradistinction, at Townsend's house this Director is a well-pondered figure.)

Often when researchers "shadow" a particular administrator, their eventual readers are disappointed with the quality of the person under study, e.g., Harry Walcott's classic work on Tom Bell (Man in the Principal's Office) is flawed by Bell's basic doltishness. The observed administrator is the opposite, with the result that the investigator has learned much. Resourceful and gifted, the Director indirectly and directly has provided the investigator with data for a study of quite a humane and respected administrator; no autocrat of the breakfast table, he.

Townsend is now in the analyzing and writing stages of the study, and the original notion of a CEO harnessing the powers of others is holding up reasonably well. He has chronicled, and will be reporting on various ways in which the Director has conferred a measure of power on union officials,

superintendents, journalists and members of other areas. Consistent with an early premise in the proposal, this Director is strong on facilitating behavior on symbolic actions, and (perhaps to a lesser degree) on defining situations.

Critical Success Factors

Susan Padro is examining the critical success factors of directors of education and their relationship to information technology. The objectives of this study are to determine the "critical success factors" (CSFs) of directors of education in Ontario and to analyze their implications for information needs.

Most directors are inundated with masses of reports and data, very little of which is relevant to their decision making and most of which is usually ignored by them. By focussing on the small number of "critical success factors" and the information requirements related to assessing these on a regular basis, one can provide a more useful and efficient formulation of relevant information needs for CEOs.

Using a sample of five or six directors of Ontario boards representing an appropriate mix of large, small, public, and separate boards intensive interviews are being conducted with each director to determine:

- "critical success factors" for their systems
- "critical success factors" for their own functions
- the information required as measures of indices of each CSF

The study will report on the following types of analyses of the data collected from these interviews:

1. Comparison of CSF's among participating directors. This would determine CSF's that are held in common (due to common aspects of educational systems) as well those which are unique to specific boards/directors due to differing circumstances and idiosyncratic factors.
2. Comparison between directors' own CSFs and those they hold for their system, as a whole.
3. Analysis of the relationship of CSFs to information requirements.

CEO Practices

Stephen B. Lawton is conducting two investigations into the practices of CEOs in education.

Study 1. The Physical Culture of the Administrators' Offices

While it is common for anthropologists to focus on the physical culture or artifacts associated with various groups (Deetz, 1977), social science generally overlooks this domain. Recently, though, the idea that useful knowledge can be gained by looking at the objects that individuals use in their daily life has become accepted. In their selection of clothes, furniture, decoration, books, and in their arrangement of objects, people are communicating notions that they may not articulate or even be consciously aware of (McCracken, 1988).

Following this line of reasoning, a series of "archeological digs" is being made in a small number of CEO offices (n = 3 to 6) in a variety of locations. Their offices are being mapped and items catalogued. Data are being collected by taking a video inventory of the offices, to be transcribed onto lists and classified according to location, type, etc.

The study is frankly exploratory. The one notion to be tested is that there exists a "folk culture" of administration and a "popular culture" or "modern culture" of administration (Deetz, 1977). The first, it is posited, is based on inside knowledge and symbols linked to traditional school knowledge. The second, in contrast, is seen to be linked to those disseminating "modern" administrative practices through books, workshops, and the like. Further, it is suggested that these two cultures of administration are found in different types of organizations, one oriented toward stasis and the other toward change and the "culture of consumption" (McCracken, 1988).

Deetz, J. (1977). In small things forgotten: The archaeology of early American Life. Garden City, NY: Anchor Books.

McCracken, G. (1988). Culture and consumption: New approaches to the symbolic character of consumer goods and activities. Bloomington, IN: Indiana University Press.

Study 2. Devolution of Authority to Schools in School Boards

This study is a preliminary investigation into the adoption of administrative practices related to the structure of large organizations, in this case school boards. One phenomena of note in the management of business is a move toward a loose-tight management style in which the central office controls goals and evaluation, but leaves operational units free to innovate as far as process is concerned. This contrasts with the traditional bureaucratic style of control through direct supervision via the line management. This change in management practice parallels the move towards privatization and attempts to bring the pressures of the market to bear on public agencies in order to improve services (Brown, 1988).

The present study focuses on the description of recent decisions to devolve authority and responsibility to schools in a number of Ontario school boards. The focus of the research is the role of the CEO in making the decision on questions, the mode of designing the nature of the devolution, and the pattern of implementation.

Brown, D. (1988, February). School-based management: Theory, practice and results. Paper presented at OISE conference on school finance.

Organizational Culture and Context

This component of the study is attempting to: (a) provide an operational definition of organizational culture as it applies to school systems; (b) develop a conceptual model of organizational culture, one that takes into account its source, the functions it serves, the factors it influences and factors that influence its change; (c) clarify the relationships among actions of newly appointed Directors, organizational culture and organizational change; (d) identify elements of context which appear related to CEOs' practices.

Donald Musella and John Davis have conducted two case studies to define the culture of a school system.

Purpose

The purpose of this study was to develop a methodology for defining the culture of a school system. To do this a case study of two school systems was conducted. The purpose of the case study was to arrive at a method for defining the culture of school systems.

Methodology

The primary data collection procedures included: (1) interviews, (2) questionnaires, (3) observation of trustee and staff activities, and (4) review of board documents. In addition, the researchers participated in the development and implementation of professional development activities as well as assessment centre promotion procedures which include trustees and senior administrative staff. Two school districts were selected as the case study sites. Data were collected independently in each school district by two of the principal investigators.

Interviews

In total, 52 individual interviews of approximately 45 minutes each were conducted with a variety of persons selected for their perceived knowledge of the school system and their role as representative of specific groups of staff. They included school trustees, heads of associations, senior central office staff, middle management staff, and other persons with system responsibilities.

In addition, one school in each of the administrative families of schools was selected at random. In each school, the principal, one vice-principal, and two to three teachers were interviewed. A total of 65 individual interviews of approximately one-half hour each were conducted in these schools.

The total number of interviews conducted in both school systems was 117.

Questionnaire

A questionnaire, designed to assess the norms of the system, was sent to each of the 14 superintendents and 85 principals in one school system and 10 superintendents and 60 principals in the other school system. Included with the questionnaire was an envelope addressed to the researcher.

Observation

One researcher attended one regularly-scheduled meeting of the Board of Education, one of the regularly-scheduled metings set by the Director (CEO) with all the principals of one of the administrative regional areas, and one of the monthly meetings of the full Administrative Council. The Administrative Council includes the Director, the Associate Director, and all (11) of the superintendents (second-level senior administrators). The researcher collecting data in the other school district attended a principals' meeting and an Academic Council meeting of the senior administrators.

Review of Board Documents

Many documents were made available to the researchers. Included were the materials distributed at the Board and Administrative Council meetings, copies of the Director's Bulletin, various position papers, annual reports, and the Boards' mission statements and long range planning documents. In addition, one of the Directors had undertaken an extensive entry set of procedures involving 70 interviews. This material also was made available.

Participation in Workshop Development and Implementation

Upon request of the Board of Education, one researcher conducted a two-day workshop focusing on trustee-senior administration relationships. In attendance were the Director, the Associate Director, and 16 trustees. Although this was not undertaken as part of the study, it provided the researcher with an opportunity to observe this group over an extended period of time.

Participation in the Implementation of Promotion Procedures

One researcher developed and implemented the Skills Assessment Component of the Leadership Identification Program used to identify persons for promotion to the position of vice-principal. This involved one day of training with eight superintendents and two days of implementation with the superintendents and 44 candidates. Although not undertaken as part of the study, this experience provided an opportunity to observe seven senior administrators and 40 teachers in procedures designed to select persons for promotion to the position of vice-principal.

Results

One set of results is the data obtained which defines the culture of the two case study school systems. The second set of results is the recommendations directed to the methodology for defining the culture of a school system. In this paper the focus is on the latter set.

Results of the Interviews

Twenty-one questions yielded useful data. Useful data were defined as data which were easily communicated by the interviewee, were easily understood by the interviewer, fell into discreet categories, were easily verifiable across interviewees, and contributed to the definition of culture (values, norms, assumptions) used in this study.

Results of the Questionnaire

The purpose of this part of the study was to assess the usefulness of the "Diagnostic Index of Norms" as an indicator of the norms of a school system as perceived by the school administrators. The results of the questionnaire yielded areas of concern as well as norms indicative of the system which were perceived to be positive.

Results of Observation and Involvement in Board Activities

The data collected in observation and involvement in Board workshop and promotion procedures were not collected or organized in any structured way. However, considerable time (approximately 29 hours) was spent with trustees and senior administrators in these activities. These data were used to assess the extent of validity of the data collected in the interviews and questionnaires.

Summary

The review of documents was useful in identifying (1) the stated nature and mission of the Board, (2) structured communication forms and content, (3) stated and practiced priorities, and (4) operational procedures and content. The results of the entry process questions employed by one Director of Education upon his appointment were especially useful. The interview process resulted in identifying 21 questions that provided perceptual data which contributed to a definition of the culture of the school systems. The Diagnostic Index of Norms questionnaire yielded an assessment of the perceived norms of the school systems and identified areas of strength and areas of concern. The areas of concern serve as a form of needs assessment which can point the way to desired changes in some aspects of the operation.

The culture of the two school systems was identified clearly and consistently by those who participated in the study. The behaviors that were exhibited correlated highly with the values, beliefs and norms identified in the study.

Appendix A

Ontario's CEOs:
Their Values, Beliefs and Actions

An Interim Report

Mark Holmes

October 1988

Ontario's CEOs: Their Values, Beliefs and Actions
An Interim Report

Mark Holmes

The Ontario Institute for Studies in Education

Introduction

This research forms a part of a larger project examining the role of directors of education in the Province of Ontario. There are three phases in this portion of the research. The three phases are:

i. Administration of a questionnaire to the population of Ontario CEOs;
ii. Administration of a questionnaire to a random sample to form a control group (based on graduates in arts and science and professional programs in the University of Toronto in 1960); and
iii. Interviews with a small sample of CEOs who claim that their values have influenced the educational life of their school systems.

This report deals briefly with the first two phases.

Interim Findings in Phase 1

In May 1988, questionnaires were mailed to the CEOs in Ontario, 116 in all. Reminders were mailed to those who did not respond within the first few weeks. Overall, 74 (63.6%) were returned, a fairly good rate when the length, complexity and the personal and controversial nature of the questionnaire is taken into account. This interim report is based on the first 69 responses (59.5%) as of June 16. In July, a short summary of the findings was mailed to all respondents.

Preamble

This report provides a general descriptive picture of the characteristics of directors of education in Ontario. It is important to consider this description in an objective light and not jump quickly to facile conclusions. It will quickly be apparent that directors of education are not in any way a random sample of the population of Ontario. In that statistical sense at least, they are not "representative" of Ontario. Later in this report, questions about the meaning of representativeness and consensus will be addressed. At this point, suffice it to point out that CEOs are well educated and affluent. It would be unusual if they had characteristics of the uneducated and socially disadvantaged.

Questionnaire Data Summarized

Personal Characteristics

Of the 69 respondents, only one is female. All are between 40 and 59, over two-thirds being over 50. All but three are Roman Catholic (42%) or mainstream Protestant (United, Baptist, Anglican, Presbyterian). None is Jewish and none belongs to any fundamentalist Christian group. About two-thirds are of British or Irish descent on their mothers' and fathers' sides, while 13% are of French descent. The first language as a child for over 90% was English or French.

About half the spouses (in fact, wives) do not work outside the home. Of those who work full-time, fully three-quarters are educators. Nearly 80% are married to their initial spouse and nearly three-quarters have three or more children.

On one important social issue, capital punishment, CEOs are considerably more liberal than the population as a whole, with two-thirds being opposed. In contrast, their intended voting patterns (in May/June 1988) are somewhat more conservative than the population as a whole. Federally, 42% would have voted Liberal (had there been a federal election), 38% Progressive Conservative and only one individual would have voted NDP. Provincially, 61% would have voted Liberal, 34% Conservative - and no one NDP.

Educational Philosophy

The most important component of this part of the project is a description of the preferred educational philosophies of the CEOs. Respondents were asked to rank order six statements of educational philosophy--but to rank only as far as they were sympathetic. Thus, some respondents might feel some sympathy with all six statements, ranking them from 1 (most preferred) to 6 (least preferred). Others might rank only three, with the remaining three not being favored at all. The six philosophical statements may be summarized as

1. The Child at the Centre (liberal - progressive);
2 Success in Future Life (liberal - technocratic);
3 Intellectual and Cultural Development (liberal - cultural);
4 Development of Good Character and Personal Responsibility (traditional);
5 The Development of Individual Freedom (neo-conservative);
6 Search for Social Equality (egalitarian).

Careful consideration must be given to the possibility that the ordering of the six descriptors may have influenced the responses--the first three being somewhat more popular than the last three. However, as the respondents are generally "liberal, middle of the road" in their answers to most questions, it seems reasonable to assume that two of the three "liberal" philosophies are indeed more popular with Ontario CEOs than right-wing or left-wing alternatives. Further, although the last listed choice is by far the least popular, the second choice is the second least popular. And the low regard in which the egalitarian philosophy is held is consistent with respondents' distaste for the NDP. The second phase of the study supports this interpretation--where the first listed philosophy is much less popular.

Tables 1 and 2 summarize the data. They show that the most popular philosophy, by all measures, is the progressive philosophy--the Deweyan perspective as it has evolved into "child centred" education. By far the least popular philosophy is the left-wing egalitarian idea that education should have a prime role in creating social equality. This finding is quite consistent with Marxist analyses arguing that progressive education is inimical to left-wing, egalitarian ideals. The liberal-cultural philosophy ranked second. This philosophy reflects the academic idea in education--concern for intellectual, aesthetic and social development. The traditional philosophy, the idea that education should produce good citizens of upright character, dominant through the latter part of the nineteenth century and the early part of the twentieth century and remaining so in many private and religious schools, ranks third. The neo-conservative idea that

TABLE 1

Rank Order of Choices of Educational Philosophies (In %)

N = 69

Philosophies	1	2	3	4	5	6	Total	% Omitted Rank[1]	Weighted Total Score[2]
Progressive	35	20	15	9	4	3	86	14	406
Liberal technocratic	13	12	19	9	13	7	65	35	271
Liberal culture	16	20	22	19	7	1	85	15	356
Traditional	16	22	16	13	7	6	80	20	327
Neo-conservative	17	17	9	15	13	4	75	25	300
Egalitarian	3	4	7	9	12	23	58	42	140

Notes:

1. Omitted Rank is the percentage who failed to rank a philosophy at all
2. Weight factors are 6, 5, 3, 2, 1 for first to sixth ranked respectively

Underlined are modal selections

TABLE 2

Rank Order of Philosophies

Rank	Total Score[1]	Modal Response[2]	Least Unpopular[3]
1	Progressive	Progressive	Progressive
2	Liberal cultural	Neo-conservative	Liberal cultural
3	Traditional	Traditional	Traditional
4	Neo-conservative	Liberal cultural	Neo-conservative
5	Liberal technocratic	Liberal technocratic	Liberal technocratic
6	Egalitarian	Egalitarian	Egalitarian

[1] Total Weighted Score - a measure of overall acceptance

[2] Modal response - a measure of the enthusiasm of its supporters

[3] Least unpopular - a measure of the tolerance of its opponents

education should be based on competition for excellence, within the framework of parental choice, received surprisingly strong support--ranking second in modal response (i.e. more people rank it first or second than anything else). This underlines again the individualistic bent of many directors. Although in practice, neo-conservative and progressive educational models are very different, both put individual interests ahead of collective interests. Thus both, for all their differences, can be seen as polar opposites of Marxist egalitarianism.

The unpopularity of the egalitarian philosophy is striking--and is consistent, as noted, with the absence of NDP support. Not only is this philosophy by far the least popular, but more than two-fifths of the respondents did not rank it at all.

Overall, Tables 1 and 2 give a picture of administrative thinking that is, for the most part, fairly consistent with Ministry directions for the two decades following the publication of the policy document Living and Learning. It is more difficult to say how closely the philosophies match those of the Ontario public, although it is fairly evident that the public would give somewhat more overt support to the liberal-technocratic philosophy. The beliefs, too, are generally consistent with the personal characteristics of directors described earlier. Just as religious and political minorities (as well as women) are either underrepresented or not represented at all, so divergent educational beliefs are not strongly represented at senior administrative levels. However, the diversity of opinion on educational philosophies may well be greater than the social diversity.

Provincial Policy in Education

The remaining items on the questionnaire addressed a variety of educational issues. Responses will be summarized under three headings--the first concerns general policy issues at the provincial level, the second issues relating directly to school administration and the third issues concerning the daily life of the CEO.

Respondents were asked which use of available revenue should be given first priority for a larger share by the provincial government. Respondents made the following choices:

Health	19.7%
Elementary and Secondary Education	48.5%
Post-secondary Education	0%
Judicial Systems	0%
Senior Citizens' Accommodations	0%
Low-income Housing	6.1%
Support for Low-income Families	10.6%
Reduce Taxes	6.1%
Reduce Deficit	9.1%
Other	0%

These choices, particularly the equivalence between reducing taxes and reducing the deficit on the one hand and support for the poor on the other, emphasize the middle-of-the-road political position of directors, i.e., one supportive of increased governmental spending on services to the entire community as distinct from more conservative fiscal restraint or more targeted expenditure which might be supported on either the right or the left. No director gives higher priority to post-secondary education than to elementary and secondary education,

even though per student grants at the former level have declined in the last fifteen years, while spending (in constant dollars) has increased on the latter.

Respondents were asked whether the government should extend funding of education beyond public and Roman Catholic schools. Only 9% felt Christian schools should be funded on the same basis and conditions as the existing two categories, 7% Jewish schools, 3% ethnic e.g. Black or Chinese-Canadian schools, and 15% independent schools with their own philosophy. Overall, 75% stated that no additional schools should be funded.

A continuing issue in Ontario is the structure of secondary education. Enrolments in vocational programs continue to decline, but there is widespread dissatisfaction with courses, which become in fact programs, at the general and basic levels. Respondents were given three choices of structure. The majority, 57%, chose the status quo, improved if possible. A substantial minority, 28% would move part way to the Radwanski recommendations. They would like to see the advanced, general and basic levels abolished, to be replaced by a common core with few options in grades nine and ten, and with students choosing clear programs based explicitly on their future plans in the last two grades. This model is very close to that currently found in Denmark. Only 3% are willing to accept the Radwanski/Mortimer Adler proposal for a common program with few options throughout high school. A further 11% made other suggestions for change.

Achievement testing remains a contentious issue in Ontario, favored by most members of the public but frequently opposed by educational organizations. Only 12% of CEOs would like to see all elementary mainstream students tested regularly every year with results made available to parents. However, a further 64% agreed that pupils should be tested once or twice during the elementary years and on other occasions if problems arose. Only 14% feel achievement tests should not be used regularly at all.

CEOs were asked to choose among four policies with respect to sexual equality. A majority, 59% prefers a policy of total sexual equality where almost no distinctions are made on the basis of sex. A significant minority, 24%, believes the school should reflect rather than lead, making attempts at the margin in terms of subject selection and participation in sports in accordance with community wishes. Interestingly, despite the strong preference for individualistic philosophies of education, only 7% believe the school should reflect the wishes of individual parents and try to recognize the reality of different cultural backgrounds. Perhaps the apparent discrepancy can best be understood if CEOs' support of individualistic educational philosophies is grounded in the assumption that professional educators should determine the most appropriate learning experiences and environments for different children rather than that they should respond to different wishes or demands from parents. Directors are likely close to the mainstream in their preference here, at least among educators. However, some feminists argue that boys and girls are fundamentally different and should therefore be given different types of instruction, the one more linear and competitive, the other more holistic and co-operative--always provided that learning outcomes are the same. Only 6% of CEOs chose that option.

An important symbol of moral education is the treatment of AIDS. Here, CEOs, surprisingly, adopted a somewhat conservative position--41% believe that secondary students should be taught that all forms of sexual intercourse are inappropriate for young, unmarried people and that the use of condoms is not a

completely reliable way of preventing either diseases such as AIDS and syphilis or unwanted pregnancy. The plurality of 41% includes 9% who would go further--limiting instruction to sexual abstinence, without discussion of the role of condoms.

A large minority, 35% adopts the liberal position that all the facts should be presented, with moral teaching left to the home and the church. While only 2% believe that nothing should be done about AIDS education at all, 13% favor different approaches from the three presented. Unfortunately omitted from the options was the combination of factual teaching with a variety of value positions.

Part of the questionnaire consisted of a series of statements with which respondents were asked to agree or disagree on a five point Likert scale. Overall, 60% agree that school boards should be given clear goals by the Ministry and then be held accountable for achieving them; 87% agree that administrators have a responsibility to ensure that the goals of school programs are responsive to public will; 66% agree that teachers should be autonomous in the choice of teaching methods, with 23% disagreeing; 25% believe Ontario schools are too responsive to "public opinion", with 51% disagreeing (there is no contradiction of the earlier response to the question on "public will"); 96% (a majority agrees strongly) agree that fundamental values (honesty, consideration for others, belief in democratic government, freedom of speech and of belief) should be taught in all schools, irrespective of children's cultural background, only 3% disagreeing.

Overall, it appears that CEOs see themselves as representing a provincial consensus or, at least, a middle majority or plurality on most educational issues. One apparent paradox in their sense of educational philosophy and choice of policy directions is that, although they favor strongly individualistic approaches to education, they generally deny an important role on the part of individual parents in the determination of children's formal education. As pointed out previously, there is no necessary contradiction in this paradox, but it does give rise to serious questions that require careful analysis. Briefly stated, most CEOs appear to believe that publicly funded schools (which should be restricted to the two categories currently funded) should strongly reflect the public will, but the programs of instruction within the schools should be individualized to meet the needs of particular students according to the pedagogical judgement and criteria of educators.

School Administration

CEOs have been interpreted as favoring strongly individualistic approaches to education. That interpretation is supported by the finding that 93% agree that they judge the quality of their schools mainly by the extent they accommodate the individual needs of each particular student. Unsurprisingly, 94% hold to the widespread belief that the key factor in school quality is the leadership of the principal. However, a large minority (40%) also agrees that elementary schools would benefit from fewer special programs and smaller home-room classes. It seems there is some feeling that individualization can be carried out as well within the classroom as by differentiated program arrangements.

There is strong feeling that it has now become too difficult to dismiss mediocre teachers (80%), but disagreement that it is too difficult to suspend and expel students (74% disagree that it is).

In the area of program, 99% agree that an important responsibility of administrators is to ensure that programs and students are regularly evaluated; 88% that small classes are particularly important in the primary grades; and 83% that individualized instruction is preferable to grouping and grouping to whole class instruction. Only 33% believe that more students should be taking technical or vocational courses.

As we move from more general beliefs about policy to more specific beliefs, a number of more specific questions arise. For example, although students are regularly evaluated by teachers, thorough program evaluation is not very common in Ontario (or in the rest of Canada). Research reports do tend to support the belief in the significance of small classes in the primary grades, but the initiative to reduce class size at that level has come almost entirely from the Ministry of Education--not from local boards whose collective agreements usually do not differentiate between primary and junior grades. Research on instructional effectiveness in the basic skills generally favors whole class instruction rather than small group or individualization. The lack of support for vocational programs is quite consistent with CEOs' de-emphasis of the liberal technocratic philosophy--but is likely at variance with their stated belief in the importance of public will.

The Life of the CEO

Twenty-one pairs of epithets applicable to administrative work were provided in the form of a "semantic differential" question. CEOs were asked to choose one from among five points placed between the two contrasting epithets constituting each pair. The results were scored so that total acceptance of the first descriptor would score 100, total acceptance of the second, 0. Table 3 shows the level of strength (on a scale from 0 to 100) of the first set of descriptors in relation to the second.) The strength of the second set can be obtained by subtracting the score provided from 100.

Thus the CEOs see their jobs as being (in order of strength of feeling): demanding, exciting, leading, well rewarded, political, hectic, predictable, satisfying, humanistic, collegial, authoritative, proactive, legalistic, calculated, hierarchical, subtle, professional, isolated, idiosyncratic and managerial. The first six descriptors are probably the most clearly valid.

CEOs were asked to allocate the way they spend their time among six categories. CEOs give highest priority to political matters (dealing with trustees, the Ministry and external interest groups); 85% spend more than one-fifth of their time in this area. Second priority is management (other than financial)--general supervisory work, to which 58% devote more than one-fifth of their time. Third in priority is communication within the organization (committee work, in-service, school visits,) which receives more than one-fifth of the time of 49% of the CEOs. Program comes next with more than one-fifth being given by only 16% of the CEOs followed by personnel work with 15% and financial management by only 5%. Fifteen % give 40% or more of their time to political matters; 63% give 10% or less of their time to program.

Asked who should be involved in the selection of an elementary principal, 81% included supervisory officers, 55% included CEOs, 52% included trustees, 15% included other principals, and teachers nominated by the federations, 10% named teachers in the school and 6% parents. Once again, there is consistency here with

TABLE 3

Strength of Preference of CEOs For One Set of Descriptors of Their Working Lives

First Set	Strength of Association with First Set	Second Set
Demanding	85	Easy
Exciting	81	Calm
Leading	78	Following
Well Rewarded	78	Poorly Rewarded
Political	74	Progressive
Hectic	70	Serene
Predictable	68	Surprising
Satisfying	68	Stressful
Collegial	66	Independent
Authoritative	62	Subordinate
Proactive	61	Reactive
Legalistic	60	Traditional
Calculative	58	Spontaneous
Hierarchical	58	Collaborative
Professional	56	Administrative
Isolated	52	Sharing
Idiosyncratic	52	Bureaucratic
Managerial	52	Educational
Transparent	42	Subtle
Technical	33	Humanistic

CEOs' view of responsiveness to the public will (through elected trustees), but some distrust of community representation that may not reflect the general consensus.

On Likert scale questions, CEOs disagreed (68%) that they often think of how nice retirement will be; were divided on whether dealing with trustees is the most difficult and frustrating part of their jobs (46% did; 44% did not); agreed that ever-changing policy direction from the Ministry is a major problem (65%) and agreed that Ministry policies, regulations and financial formulae are used too much to change the behavior of school districts (59%).

Generally, this set of responses is internally consistent and, where extrapolation can be made to other parts of the questionnaire, is consistent with those findings as well. Thus, CEOs claim to give much time to political matters and to internal communication, much less to substantive concerns with school program. Describing their lives, they see them as being much more political (74%) than pedagogical (26%) and collegiality (66%) and authority (62%) are given higher scores than education (48%) or technique (33%).

Interim Findings in Phase 2

Preamble.

This component of the larger research project is intended to place the values and beliefs of the Ontario CEO in some context. The first phase examined CEOs' values and beliefs in spring 1988. CEOs can be seen as being essentially liberal and progressive in their outlook on education and on some other social issues, notably capital punishment. There are a few exceptions to this statement, the attitude to sex education being a notable one, but a plurality or majority is progressive on most issues. However, although directors are typically middle-class in their backgrounds with very little representation of minority religious or political beliefs, they do represent a wide variety of educational philosophies.

A comparison of CEOs' with others' beliefs is useful to place the CEO in context. But which others'? There might be some value in comparing the CEOs with the population as a whole. But many of the items are not suited to a questionnaire appropriate for all adults. One alternative would have been to bury a few items for general use in the CEO questionnaire. However, that would have posed problems too. A full-scale public opinion poll conducted by a polling agency would have absorbed most of the project's budget. Further, if it had been mailed, the rate of return would likely have been so low as to make its usefulness questionable. Equally important, the purpose of this research is to examine values as well as more superficial opinions. To have reduced the important and searching questions in the questionnaire to a level of comprehensibility and interest suitable for everyone would have been to undermine the purpose of the research project.

It was therefore decided to use as the control group a set of peers of CEOs who would not be too dissimilar from them, with the exception of occupation. Consideration was given to using one other profession e.g. engineers or dentists, but it was decided that university graduates of about the same age would make a better comparison group. The University of Toronto was chosen because of its accessibility and its large pool of graduates. A questionnaire was drawn up drawing items from the CEO questionnaire that were not too technical in nature. The questionnaire was mailed to a random sample of the 367 graduates of the university in 1960 from arts and science and professional areas excluding education.

Education was excluded because the purpose of the control group is to compare CEOs with the public at large in different occupations. It was recognized that the sample would include some educators; after all, many graduates in arts and science go on to achieve pedagogical qualifications. Responses were received from 161, 44%, a reasonable rate of return for a questionnaire of some complexity. The questionnaire, for bureaucratic reasons, was mailed two months later than the questionnaire to CEOs, in July, 1988.

As our major interest is in a control group most like CEOs except for occupation, a separate analysis of the returns has been run for respondents who are:

i. employed full-time;
ii. not employed in the field of education.

Three separate analyses of the data are therefore shown: the entire sample (N = 161); full-time workers not employed in education (N = 81); and full-time workers in education (N = 44). The 38 respondents not included in the sub-samples do not work full-time. The reason for conducting a separate analysis for the educators is twofold. In general, one would anticipate that CEOs reflect the views of educators more than those of non-educators. Hence the control group of educators acts as a rough validity check for both the CEOs and the sub-sample. It is also interesting to note the cases where CEOs differ not only from the respondents in different occupations but from respondents also working in education. However, it must be taken into account that the sub-sample of educators is very small and includes educators in post-secondary as well as elementary/secondary education. Secondly, it is important to parcel out educators from the entire sample because they may contaminate the larger sample which is intended to put CEOs in the context of the general educated population. Further, one may assume that those particularly interested in education are more likely to answer a questionnaire on education and therefore it seems extremely probable that educators are over-represented in the sample of 161.

At this time, no tests of statistical significance have been run; so caution in interpreting the data is advised. A general guide used in this interim report is that differences between CEOs and the control samples of six or more percentage points are deemed noteworthy, differences of twelve or more deemed important.

Personal Characteristics

As Table 4 shows, CEOs are different in some respects from the main control sample (University of Toronto graduates of 1960 excluding educators). They have fewer children, they are less preponderantly male, they are much less Catholic, and they are considerably more conservative on social issues (capital punishment; government spending). As the vast majority has a salary greater than $75000, it is safe to say they are considerably better paid than the control group. We are therefore comparing the leaders of one profession with a more representative sample of other professions and occupations. The party political choices must be interpreted with particular care as there was a time gap between the administration of the two sets of questionnaires. During that time there was some movement in Ontario away from the Liberals to the Progressive Conservatives, both federally and provincially. Even so, it seems likely that the U of T (non-ed) sample is less Liberal and more Progressive Conservative.

Table 4

Personal Characteristics of CEOs and the Control Groups (%)

	CEOs	UofT grads non -ed	UofT grads ed	Control group
N	69	81	44	141
Age 40-59	99	98	93	88
Married first spouse	79	84	82	84
3 or more children	66	46**	82**	44**
Male	99	86**	67**	76**
Roman Catholic	44	17**	14**	15**
Mainstream Protestant	51	52	57*	56
Jewish	0	7*	2	5
First language learned English	90	79*	98*	84*
First language learned French	7	0*	0*	1*
Federal election-Liberal	39	29*	33*	31*
" " -NDP	1	11*	21**	16**
" " -PC	35	39	21**	33
Provincial election " " -Liberal	52	36**	48	41*
" " -NDP	0	10*	16**	13**
" " -PC	29	38*	18*	29
Favors capital punishment	33	66**	50**	60**
Funding priority el/sec	49	11**	18**	16**
-reduce deficit	9	35**	16**	26**
-health	20	17	31**	20
Salary over $75000	-	41	15	-

* difference of 6-11 percentage points between CEOs and Control Groups

** Difference of 12 or more percentage points between CEOs and Control Groups

As anticipated, the sample of educators (University of Toronto graduates of 1960, employed in education) generally falls somewhere between the other two groups--in politics and social affairs. However, these respondents are much less well paid and are even more fecund than the CEOs. Perhaps coming into contact with the offspring of others leads to the belief one can do better oneself.

Generally, as one would expect, the statistics for the entire control sample fall between those of the non-educator and educated samples; however, this is not always so. For example, only 44% of the entire sample have three or more children, fewer even than the non-educator sample. The control sample includes 28 people who do not work full-time. Interestingly, not working full-time is associated with not having children among graduates of the University! Very likely, educated women have fewer children than uneducated women.

One last finding is of note. CEOs are somewhat to the left of the control sample, but they are also somewhat less deviant. Only 1% of CEOs support the NDP, compared with 10% or 11% of the non-educators, and 13% or 16% of the entire sample. This could be explained by their greater affluence.

Philosophies of Education

As noted, the principal focus of this investigation is the educational philosophy of the CEO. Attention has already been drawn to the strong commitment of a plurality of CEOs to the progressive "child centred" philosophy. I suggested earlier that this was likely not consistent with that of the public-at-large. In this area, there is a striking difference between the non-educator sample and the CEOs; 35% of the CEOs made the progressive philosophy their first choice compared with 11% of the non-educator sample (Table 5). As one would hypothesize, the educator sample (including post-secondary as well as elementary-secondary teachers and administrators) is much closer to the CEOs (although the difference between those two samples remains noteworthy) than to the non-educator sample. If one omits the egalitarian philosophy of social reconstruction (no more than 5% of any sample support it), CEOs chose the progressive philosophy first our of five, with the second most popular choice lagging by 18 percentage points. In contrast, the non-educators ranked the progressive philosophy fifth out of five. It lagged by 16 percentage points behind their first two favored philosophies.

One should be careful about interpreting this major difference in philosophy in right-wing/left-wing terms--despite the fact that progressivism is seen by some as being left-wing and that the non-educators are clearly more conservative on other social issues. If the first three "liberal" philosophies are combined, they are chosen by almost exactly the same proportion of CEOs and non-educators . On the other hand, the "conservative" options (traditional and liberal cultural) are chosen by 46% of non-educators, only 32% of CEOs; the neo-conservative options (neo-conservative and liberal technocratic) are chosen by 43% of the non-educators, 30% of the CEOs. More simply, Table 5 shows that the liberal technocratic and liberal cultural philosophies are much more popular with the non-educators than with CEOs. Perhaps surprisingly, the control group of educators is closer to the non-educators than to CEOs. One possible explanation is that CEOs have been acculturated into the official philosophy of the Ministry of Education, whose philosophy, incidentally, appears now to be changing. There is an alternative explanation of the findings that is also plausible. CEOs would typically not have been educated themselves in progressive times. They may have been selected for

Table 5

Most Favored Educational Philosophy (%)

Philosophies	CEOs	UofT Grads non-ed	UofT Grads ed	Control Group
N	67	81	44	158
Progressive	35	11**	27*	20**
Liberal technocratic	13	27**	21*	22*
Liberal cultural	16	27*	25*	27*
Traditional	16	19	9	13
Neo-conservative	17	16	14	14
Egalitarian	3	0	5	3

* Indicates noteworthy difference from CEOs

** Indicates important difference from CEOs

promotion because of their commitment to progressive philosophies and they may at the same time have been acculturated into the progressive philosophy. In contrast, other educators of their age may not have embraced progressivism so enthusiastically. Younger educators, not represented in the control sample, educated in progressive times, particularly in progressive faculties of education, may adhere to progressivism as strongly as or more strongly than the CEOs.

In Table 6, the total rankings, as distinct from first choices, are taken into account. This table gives a slightly less marked impression of the differences between CEOs and the control group, because of course all ranked philosophies are scored. Thus, in Table 5 the first choice only is scored with all other choices effectively being counted as zero; in Table 6, all deliberate choices count. As most respondents made five or six choices it is apparent that the variation is necessarily much less great in Table 6 than in Table 5. However, the same trends are evident in both tables.

Opinions on Educational Issues

Table 8 provides a summary of opinions, on a variety of educational issues, held by the CEOs and the control group. The more technical questions in the CEO questionnaire about which the control group likely would have little knowledge were omitted from the control questionnaire.

There is almost complete agreement on three major issues. Of all the questions asked, the strongest agreement is that fundamental values (honesty, consideration for others, belief in democratic government, freedom of speech and of belief) should be taught in all schools, irrespective of the cultures from which the children come. When that is coupled with a very low level of support for the funding of other schools (besides Catholic and public), it can be seen that there is very strong feeling that there must be a basic core of cultural values inherent in any publicly funded education. It is interesting that directors are slightly more willing than the control group to see independent schools with their own philosophies funded--always provided the funding is given on the same basis and conditions as it is to the currently publicly funded schools. A slight majority of all groups favors a clear policy of sexual equality in schools.

The greatest disagreement exists in the area of testing, an area in which we know that Ministry policy has long been at odds with the public. Only 20% of CEOs believe there should be regular, annual achievement testing in the basic skills at the elementary level, whereas a clear majority of the control group would like to see that happen; interestingly, on this issue, the educators agree with the non-educators, not with the CEOs. Almost as great a disagreement exists on the suspension and expulsion of students. Clearly the control groups perceive that it must be too hard to suspend and expel students--otherwise the behavior they perceive to be found in schools would not be allowed.

Another, and perhaps surprising, area of difference is over sex education. On this issue, the control groups, unlike the CEOs, do not favor a sex education program that favored teaching students that sexual relations are inappropriate for young people. At first sight, this seems to contradict the strong stand on the teaching of fundamental values and the apparently more conservative position of the control group. The apparent contradiction can perhaps best be explained by the suggestion that the control group generally favors instruction free of bias and interpretation except for the core values that underlie our society. Beliefs about

Table 6

Philosophies - Weighted Total Score[1]

	CEOs		UofT Grads non-ed		UofT Grads ed		Control Group	
N		67		81		44		161
Philosophies	#	%	#	%	#	%	#	%
Progressive	406	22	224	14*	288	15*	268	16
Liberal technocratic	271	15	376	23*	433	23*	347	21
Liberal cultural	356	19	388	23	435	23	395	24
Traditional	327	17	316	19	275	15	295	18
Neo-conservative	300	16	268	16	287	15	259	15
Egalitarian	140	8	79	5	171	9	118	7

Notes:

[1]Percentage ranking each choice from 1 to 6 is weighted from 6 to 1 respectively

*Indicates noteworthy difference from CEOs

Table 7

Philosophies - Rank Ordered (by weighted total score)

Rank	CEOs	UofT Grads non-ed	UofT Grad Ed	Control Group
1	Progressive	Liberal cultural	Liberal cultural	Liberal cultural
2	Liberal cultural	Liberal technocratic	Liberal technocratic	Liberal technocratic
3	Traditional	Traditional	Progressive	Traditional
4	Neo-conservative	Neo-conservative	Traditional	Progressive
5	Liberal technocratic	Progressive	Neo-conservative	Neo-conservative
6	Egalitarian	Egalitarian	Egalitarian	Egalitarian

Table 8

Opinions on Educational Issues

Percentage of CEOs and Sample Groups Agreeing with Stated Propositions

		CEOs	UofT Grads non-ed	UofT Grads ed	Control Group
	N	69	81	44	161
1.	Principal the key factor	96	78**	91	82**
2.	Better fewer programs, smaller classes	40	63**	47*	59**
3.	Teachers' authority over pedagogy	66	54**	80**	61
4.	Evaluation and administrative responsibility	99	93*	93*	93*
5.	Primary classes should be small	88	79*	84	83
6.	Need more tech/voc	34	51**	56**	53**
7.	Too difficult to suspend/expel students	20	63**	71**	65**
8.	System too responsive to public opinion	25	49**	58**	49**
9.	Fundamental values in all schools	96	97	93	96
10.	Should fund Christian schools	9	4	2	4
11.	Should fund Jewish schools	7	4	2	4
12.	Should fund ethnic schools	3	4	0	3
13.	Should fund independent Schools	15	6*	0**	4*
14.	Teach that sex inappropriate for students	50	24**	20**	29**
15.	Test elementary students every year	12	58**	47**	49**
16.	Abolish levels in high schools; choice of distinct programs in Grades 11 and 12	28	48**	21*	40**
17.	Clear policy of sexual equality	59	55	58	54

* indicates noteworthy difference from CEOs

** indicates important difference from CEOs

sex, according to this view, would be a matter for the family; the school's responsibility would be limited to factual information. This perspective would be perfectly consistent with a liberal technocratic philosophy and with a neo-conservative philosophy; it would not be consistent with a traditional philosophy.

The control group is much more willing to see a change in the structure of the secondary school than are the CEOs. A plurality of the non-educator group (48%) would like to see the basic, general and advanced levels abolished in grades 9 and 10 with a clear choice of programs to be made by students as they enter grade 11. Quite consistently, a slight majority (51%) would like to see more emphasis placed on technical and vocational programs.

A large minority of CEOs believe program specialization has gone too far in the elementary school; they would like to see fewer programs, thus allowing smaller classes overall (i.e., there would be fewer special education classes and fewer pull-out programs). A majority in the control groups shares that view. A surprise is that the control groups believe much more strongly than do CEOs (49% to 25%) that the school system is too sensitive to public opinion. Presumably, they do not believe it is too sensitive to their own opinions; and they are generally less supportive of the status quo than are the CEOs. Possibly, the control group sees the things they do not like in the school system as being responses to public pressure groups.

Conclusion

There are important differences in educational philosophy and opinion between the CEOs and the control group. Although there are also differences within the control group (among the non-educators, the educators and those who do not work full-time--that small group was not analysed separately,) these often minor differences do not depreciate the major difference between the CEOs and the target control group--the group of University of Toronto graduates not employed in education. There are several reasons why this particular group is the most important base for comparison: i) it is reasonable to assume that those interested and employed in education are the most likely to respond to a mailed questionnaire--hence educators are probably over-represented in the entire sample; ii) The purpose of the control group is to compare CEOs with other members of the community similar to them in other respects than occupation; that comparison is obscured if the control group is heavily composed of educators; and iii) Table 3 shows that the non-educator sample is quite similar demographically to the CEOs, i.e., they work full-time, they are of similar age; they are predominantly male and they earn quite high salaries (although not as high as the CEOs). In any case, most of the opinions of the non-educators are sustained, if less strongly, by the sample as a whole, of which they form only one-half.

Do the CEOs represent the people? Should they? This research does not include a poll of the adult population of Ontario. However, previous polls on educational issues suggest that the non-educator sample is generally much closer to public opinion than are the CEOs--with respect to such issues as achievement testing and secondary school organization. The purpose of this research is to identify CEOs' values and beliefs, to examine the extent to which and the ways in which they are translated into policy and to situate them within current ideas and opinion about future policy in education. This interim report raises three important questions for further analysis and investigation.

1). To what extent should the personal characteristics of CEOs resemble those of the public and the parents they serve? One position is that ideally CEOs should represent the demographic distribution of the population--in gender, ethnic background, religion and, possibly, party political persuasion. One practical difficulty with that ideal is that CEOs belong by definition to one social class; CEOs after all are rich. As some demographic characteristics are related to social class, e.g., religion, the "ideal" would be difficult, to say the least, to bring about.

An alternative position is that CEOs should represent the middle majority, that it would be unreasonable to expect one school district to be administered by, for example, an extreme communist, or an extreme femininist, or a religious fundamentalist--unrepresentative of the majority of the district. That leads to the second question.

2). To what extent should the educational beliefs, opinions and philosophies of CEOs reflect those of the public and the parents they serve? Two positions analogous to those on the first issue are apparent. They should either represent the spectrum of opinion or they should represent the middle majority. It is interesting to note that while the personal characteristics of CEOs are not at all representative of the spectrum in the population, their educational philosophies are somewhat more widely distributed (with the exception that very few favored the egalitarian, social reconstruction perspective). However, they do not appear to represent the middle majority (at least of the educated population)--which is much more committed to the liberal technocratic and liberal cultural and much less to the progressive philosophies. (One would expect the population at large to be considerably more egalitarian and technocratic and less progressive than this sample of educated people).

3). To what extent and in what ways do CEOs put their beliefs into action? The CEO faces a dilemma. To act on personal beliefs is to attempt to impose one's personal philosophy on others who may not share it. To act "objectively" according to the wishes of the various groups that influence and control the school district is to accept the "value-free" role of manager rather than the educational role of educational administrator. And of course if the CEO does not represent some agreed upon philosophy, how can it be reasonably expected that schools will adhere to any particular recognizable code of beliefs?

Answers to these questions lead to a fundamental issue. It is generally believed, by educators and social commentators alike, that there is less consensus today about major issues than there once was. Educational decisions, by school boards, superintendents, principals and teachers, are more likely to be challenged. So the question arises as to whether or not there is sufficient consensus to support the common school whose direction is entrusted to a CEO who is a part of that consensus. So the larger question is not whether or not Ontario CEOs are out-of-step with the current educational wishes of the population (important as that question is), but whether a meaningful consensus embracing the vast majority of public school adherents can be forged at all. For example, if we imagine (perhaps with some difficulty) an educational program based on a combination of the liberal technocratic, liberal cultural, traditional and neo-conservative philosophies, 11% of the first choices in the non-educator sample (23% in the entire sample) remain excluded; and in the population at large the egalitarian minority is likely considerably larger (it will be recalled that NDP support is greatly under-represented in this sample). It is toward this question that further analysis will be ultimately addressed.

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Appendix B

How Chief School Officers Classify and Manage Their Problems

Kenneth A. Leithwood

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Abstract

This study examined aspects of the problem-solving processes of eight chief school executives: how they classified and managed their problems, broad problem solving strategies and influences on their problem solving. Information processing theory and the results of related research carried out with principals provided a framework for the study. Intensive interviews were audiotaped, transcribed and content analyzed. Results identify criteria CEOs used to prioritize problems, estimate their difficulty and determine the involvement of others. Both direct and underlying "structural" influences on CEOs' problem solving are identified, partly through a comparison of data collected in this study with comparable data collected in a study of elementary school principals. Implications for theory and future research are identified.

How Chief School Officers Classify and Manage Their Problems[1]

Boyd (1988) has suggested, in his recent review of research on administration, that we possess little formal understanding of the roots of administrative behavior. What elements in administrators' work worlds are of consequence to them? How do they come to act as they do? The study reported in this paper has attended to these questions as applied to chief school officers. It has done so, first of all, by arguing that CEO's problem solving processes explain much of what they do. Data collected through interviews with 8 CEO's were used to explore selected aspects of these processes: problem classification and management; broad problem solving strategies and both direct and structural influences on problem solving.

As a useful perspective through which to better understand the practice of administration, problem solving is well established in organizational contexts outside of education (e.g., Argyris, 1984; Kolb, 1984; Weick, 1984; McCall & Kaplan, 1985; Klemp & McClelland, 1986). Rarely, however, has educational administration been viewed in this way. Some justification for adopting such a perspective in this study is in order, therefore.

Reasons for adopting a problem solving perspective on educational administration can be understood by situating it in relation to two competing perspectives. These perspectives are evident in current empirical inquiry and paradigmatic debates concerning the proper nature of research on educational administration: administration as technical action and administration as decision making.

A significant portion of an administrator's work may be viewed as the application of "tried and true" procedures for carrying out routine but often complex and non-trivial tasks. The existence of such procedures or techniques is a central attribute of occupations warranting professional status (Glazer, 1974). Skill in the application of technical actions permits professionals such as administrators to automatize some of their responses, thereby freeing mental energy for truly puzzling aspects of their work. Educational administration has a long

legacy of prescriptions for improving practice. Recent studies of effective schools and their administration (e.g., Dwyer, Lee, Barnett, Filby & Rowan, 1984; Lightfoot, 1983; Phi Delta Kappa, 1980; Rutter, Maughan, Mortemore & Ouston, 1979) continue the effort to improve at least school administrative practice through the development of reliable techniques.

Many existing techniques can be criticized as the product of undisciplined armchair theorizing with unknown or severely limited internal and external validity. However, such criticism in no way detracts from the contribution to administrative practice that could be made by a substantial repertoire of valid techniques that might result from a disciplined design process such as that advocated by Simon (1982). To be given more serious consideration is the criticism that technical action, by itself, is far too narrow a view of what is involved in administration, and one that has no explanatory power because of its focus on largely overt behavior. Given the availability of potentially relevant skills and knowledge, administrators must often decide what skills and knowledge to use and when to use it in their own situations. Descriptions of effective action, such as those available in the results of recent effectiveness research, at best provide an expanded repertoire of alternatives available in the contingent world of the administrator. These descriptions need to be supplemented with a more profound understanding of the internal processes giving rise to them and from which their meaning derives. Indeed, descriptions of overt action may be counterproductive if their uniform application is insisted upon. The result might easily be a narrow, inflexible recipe for leadership that severely constrains the contextually sensitive judgements of many administrators, thereby reducing, rather than increasing, their effectiveness. Alternatively, the overt actions described by current school and administrator effectiveness research might be better viewed as examples of actions that have emerged as useful in particular contexts through the application of more fundamental processes. It is these processes, as well as skill in the use of technique, that administrators need to acquire in order to become more effective in their own, at least partially, unique contexts.

Questions concerning the nature of the processes alluded to above have helped to justify an interest in a decision making orientation to administration. Decision making has been viewed by

many as the core of administration, at least since Simon's 1945 (see Simon, 1957) seminal work. Griffiths (1958) proposed such a framework as part of an effort in the mid-1950's to place research in educational administration on a more theoretically defensible footing (Halpin, 1985). That this orientation remains compelling as a framework for understanding at least school administration is evident in the conclusion, drawn recently by Morris, Crowson, and Porter-Gehrie (1981), that the core act of the school principal was "discretionary decision-making".

Decision making, as an orientation to administration, has been criticized for the nature of the research it has spawned rather than for its conceptual inadequacy. For example, in his critique of this research, Greenfield (1986) points to an obsessive concern for methods of inquiry, lack of concern for the ends of administration, a depersonalization of organizations and a failure to recognize the central role of values as springs to human action. The alternative view of administration and its study which Greenfield advocates would be sensitive to the constructed social reality of individual administrators; it would recognize the central role of values in administration and would be independent of research methods premised on a positivistic epistemology. A productive starting point for inquiry of this sort, Greenfield also suggests, might well be Simon's: an understanding of "the logic and psychology of human choice...the study of decisions, will and intention in all their depth, perplexity and subjective uncertainty (1986, p. 75)."

The larger study of CEOs' problem solving, of which the study described here is a part, responds to some of the limitations associated with past research on administrative decision making. The study is concerned with both rational and non-rational aspects of thought. It inquires about the role of intentions and values as administrators worked toward finding important problems in the often messy situations confronting them. In addition, although not from a phenomenological perspective, the relationship between problem-solving processes and the subjective nature of knowledge and the way it is organized was examined.

Finally, decision making is considered to be a relatively simple form of problem solving in which one chooses from among a set of known alternatives. While administrators must deal with such problems, they must also construct more creative solutions to problems which have little structure. As Kolb (1983) argues: "...decisions cannot be made effectively if the problem is not yet defined and if it is not at all clear what the alternatives are, can, or should be (p. 110). Schon (1983) suggests that these problems "in the swamp" may often be the most interesting and important ones to deal with. The larger study inquired about the processes used by administrators to address such problems.

Framework

The present study was guided by a general orientation to research on problem solving and the specific outcomes of applying that orientation to the study of school administration.

General Orientation

The adoption of a problem solving perspective on educational administration, while rare, is not new. Hemphill (1958) saw value in such a perspective thirty years ago. At that time, however, theories of problem solving were extremely primitive, avoided direct attention to basic cognitive processes involved in problem solving, and were grounded in very little empirical evidence. All of these limitations are evident in Hemphill's (1958) formulation, which appears to have stimulated little subsequent research. But theories of problem solving are no longer so limited, largely due to advances in cognitive science over the past decade. Consequently, an information processing conception of problem solving was adopted as a general orientation for this study.

Until recently, information processing-oriented research on problem solving has concentrated on characteristics of the problem itself (particularly its "structure") and studied problems that were "well-structured" (i.e., clearly presented, with all of the information needed at hand, and with an appropriate "algorithm" guaranteeing a correct solution; Frederiksen, 1984)

and/or "knowledge lean" (i.e., involving novel situations, where specialized knowledge and skill are not required - see, for example, Glaser, 1984; Simon 1973, 1975). However, several new directions are emerging in the field. First, there is increasing awareness that the solution process that is used has more to do with the solver's knowledge of a particular problem than with problem type or characteristics per se (Frederiksen, 1984). Second, because of the importance of knowledge, studies of problem solving increasingly have been conducted within specific knowledge domains rather than in "knowledge-lean" ones. Baird (1983) and Glaser (1984) provide substantial evidence for the appropriateness of this direction for research. Finally, there is evidence of more interest in "ill-structured" problems (i.e., those with indefinite goals and/or incomplete materials provided (Greene, 1976, 1978), along with an awareness of the limitations of generalizing results from research using well-structured problems to processes involved in solving ill-structured problems.

The treatment of problem structure and solver's knowledge in recent information processing literature demonstrates the importance of domain-specific knowledge in accounting for problem-solving processes and hence has strengthened our belief that there is a need for a detailed study of problem solving by CEOs; little in the existing literature can be safely generalized to this role. Indeed, only two empirical studies could be located (Hayes-Roth & Hayes-Roth, 1979; Voss, Greene, Post & Penner, 1983) which provided accounts of ill-structured problems and/or problems concerned with everyday life. One of these studies (Voss, Greene, Post & Penner, 1983) considered problem solving in the domain of the social sciences. This study's application of the general information processing model to ill-structured problems and its approach to the characterization of social science problems (considering more than "structure") influenced the direction of the present study research significantly.

In addition to type of problem and its relationship to solver's knowledge, the context in which administrators' problems were solved (i.e., whether alone or not) is an important determinant of the process involved. Clark and Peterson (1986), in a review of teachers' thought processes, indicated that there appeared to be an important distinction between the kind of

thinking that teachers do during classroom interaction and that done before and after such interaction. Presumably, there is an analogous distinction to be made for administrators. Shulman and Carey (1984) reviewed evidence concerning the number of people involved in problem solving, and provided a theoretical argument for the importance of this dimension based on Simon's (1957) conception of bounded rationality: the limits on an individual's problem-solving ability, imposed by the boundaries of his/her information processing capabilities, can potentially be extended through group problem-solving processes.

The Problem Solving of School Principals

The amount of empirical research on administrative problem solving, in an educational context, is extremely modest. However, my colleagues and I have been engaged in such research with school principals for the past three years. Results of this research provided tentative directions for inquiry into CEOs' problem solving processes. Further, direct comparisons of processes used by principals and CEOs seemed likely to help understand the nature and extent of influence on administrative problem solving of role and organizational context.

Our research on the problem solving of school principals has progressed through four stages. As a whole, this research has used the variety of process tracing methods common to the study of problem solving in many contexts, viewed from an information-processing orientation (Hayes & Flower, 1983). These methods include retrospective reports about naturally occurring problems, "think aloud" interviews in response to simulated problems, stimulated recall techniques and variants of shadowing principals (behavior protocols) in their schools. At each stage of the research, the problem solving of "expert" principals has been compared with the problem solving of more "typical" principals - these designations being the product of two independent procedures for identifying principals' effectiveness.

The first stage of the research (Leithwood & Stager, 1986) inquired into how elementary school principals classified and managed their problems and influences on their problem solving processes. Preliminary steps were also taken to clarify the nature of principals' problem solving

strategies: because the current study replicated, with CEO's, this stage of our research with principals, a summary of findings is incorporated in the Results (below). Subsequent stages of our principal research were concerned with (a) a more detailed understanding of problem solving strategies (Leithwood & Stager, 1987); (b) an exploration of cognitive flexibility in expert problem solving (Stager & Leithwood, 1988) and; (c) the nature and role of values in problem solving (Begley, 1988; Campbell, 1988).

Results of research on principals' problem classification and management suggested that expert, as compared with more typical, principals:

- assigned more weight to problems which were likely to be solved through the involvement of larger rather than smaller numbers of people. These problems seem likely to be more complex and time-consuming to solve;

- used a much more deliberate and explicit sorting process (this is symptomatic of a generally more reflective posture toward problem solving as a process in its own right);

- gave more priority to problems impacting on school programs, overall school directions and staff as a whole than to problems with much narrower impact;

- systematically used more explicit daily routines for managing time as well as predicting potential future problems and acting to prevent them from becoming time-consuming crises. These techniques create the opportunity for principals to devote attention to high priority problems.;

- focused on the availability of clear problem-solving procedures, where knowledge permits, and recognizing those aspects of problems that are truly novel and should be treated as such.

Data concerning influences on problem-solving processes suggested that highly effective principals:

- with administrative experience, became more reflective about their own processes and refined these processes over time;

- although similar to moderately effective principals in general moral values and in personal values, were more influenced by their beliefs concerning principals' roles and responsibilities, and were more able to specify day-to-day consequences of such beliefs;

- were more aware of school system needs and requirements and tried harder to take them into account in school-level problem solving;

- derived more personal enjoyment from problem solving and, partly as a consequence of this, were more proactive in dealing with school problems.

As compared with those of typical principals, some of the broad problem solving strategies of highly effective principals could be summarized as follows:

- having an overall style which provided a more central role for others (consultative, collaborative, shared problem solving);

- devoting greater effort to systematically collecting information relevant to the problem;

- exhibiting greater tendency to risk defining large, significant problems but to solve them through a very methodical, risk-less process (i.e., "front-end" risk-takers);

- guided by a more explicit, conscious model of the problem-solving process, one which included an optimal sequencing of steps;

- giving greater attention and time to initial problem clarification;

- establishing more formal structures to facilitate the problem solving of staff in both short and long term;

- assuming that a major reason for staff involvement is to produce better solutions;

- drawing on larger amounts of knowledge from more sources external to the school and school system.

This summary of how expert elementary school principals classify and manage their problems is revisited later in the paper.

Method

Eight CEOs provided data for this study through an interview lasting 45 minutes to about 3 hours. CEOs were selected so as to ensure variation in length of time as CEOs (from 2 to 13 years, average = 6 years), size of school systems administered (10,000 students to one of the largest in Canada), and gender (2 were women): these three variables were viewed as potential influences on problem solving although the sample was too small to permit an analysis of the relationship between these variables and CEOs' problem solving. Biographical information collected at the beginning of the first interview indicated that five CEOs had prior in-school experience at the elementary level, 2 at the secondary level, and 1 at both levels. All but one CEO had entered the role from the superintendents position (Ontario's equivalent to an Assistant Superintendent); one had entered from an assistant deputy minister's position in the Ministry of Education. Three CEOs had worked in faculties of education at an earlier point in their careers and at least two had been CEOs in other school systems prior to their current posts.

Each of the interviews was tape recorded and verbatim transcripts were made. Questions in the interview, semi structured and followed by detailed probes, inquired about how CEOs classified and managed problems, influences on problem solving strategies and the nature of problems encountered by CEOs.

There has been considerable debate about the validity of verbal reports as evidence of cognitive processes (e.g., Nisbett & Wilson, 1977; Ericsson & Simon, 1984). Based on some of the outcomes of that debate, several features of the data provided by CEOs in response to the interview technique bear comment. These comments are guided by Ericsson and Simon's (1984)

analysis of the conditions under which verbal reports of cognitive processes are likely to be valid. Based on a simple model of information processing, they hypothesize that recently acquired (or needed) information is kept in short-term memory and, hence, is directly accessible for producing verbal reports. Information stored in long-term memory, however, must be retrieved before it can be reported: the retrieval process can threaten the validity of verbal reports because it can be incomplete and subject to many different types of distortion by the retriever. In some cases, questions are asked which can be answered without retrieving contents of long-term memory or which demand inferences on the part of the respondent rather than retrieval.

Data for this study were collected through questions that clearly relied on retrieval of information from long-term memory. For this information to be free of the threats to validity cited by Ericcson and Simon (1984), one must assume that CEOs had already generated this kind of general description of their own cognitive processes and had prior occassion to reflect on it frequently. While Ericsson & Simon (1984) suggest that in typical psychological experiments there is usually no reason to suppose this to be the case, CEOs seem likely to be an exception in respect to the questions posed in this study. That is, CEOs prior experiences have required considerable reflection on their general problem solving strategies although perhaps less on what has influenced these strategies. In spite of this likelihood, data collection methods may have sometimes revealed what CEOs believed or wanted others to believe were their mental processes rather than the processes themselves.

Verbatim transcripts were read by three people. A coding system, originally developed for research with principals, was adapted and applied to the CEO transcripts by two analysts working independently. Very few differences were apparent in the coding and summarizing of these two analysts. Rather than calculating the interrater reliability of coders, a third analyst was used in discrepant cases and consensus on coding was reached.

Results

Problem Classification and Management

Figures 1, 2 and 3 summarize dominant trends found in the data concerning CEOs classification and management of problems. Such classification and management appears to involve the solving of at least three subproblems: determining the relative priority to be given a problem; estimating its probable difficulty and; deciding whether or not to involve others in the solution process and if so who. For most of the CEOs in the study, each subproblem involved the consideration of multiple issues or factors. No single CEO, however, provided evidence of considering all the factors noted in Figures 1, 2 and 3: several considered only one factor for each category of decision while several considered as many as four. In the case of each subproblem, several factors were considered by most of the CEOs.

CEOs identified eight bases they used in determining the priorities to be awarded to a problem (Figure 1). The number of other staff capable of handling the problem was one of these bases. Problems awarded high priority were those that only the CEO was capable of dealing with, for one reason or another. For example, one CEO said that he did not do anything that he thinks someone else could do. He tried to delegate most problems to superintendents or principals who were most capable of handling them. A second basis for establishing priority was the uniqueness or novelty of the problem. Relatively routine problems were usually handled by an administrative assistant, a secretary, or someone else within the school system. Often routine problems never reached the CEO's desk. As one CEO noted "quite honestly I don't have a lot of issues come to my desk; the superintendents keep me informed and we sit down for maybe an hour a week and they will bring me up-to-date". Another CEO spoke of the relatively rare instances when "emergencies" landed on his desk.

Basis for Awarding Priority	Low Priority	High Priority
1. Number of other staff capable of handling problem	some	only CEO
2. Novelty of the problem	routine	unique
3. Proportion of school system affected by problem	small	large
4. Public visibility of the problem	low	high
5. Political content of the problem	none	extensive
6. Time frame for finding a solution	short	long
7. Relevance to board policy	unrelated	directly related
8. Fit with CEO's conception of role responsibility	remote	close fit

Figure 1...Bases on which CEOs determine priorities among problems

Problems were also awarded a relatively high priority if they were likely to affect a relatively large proportion of the school system. Furthermore, if the problem seemed likely to have a high profile or be quite visible to the public then it became a higher priority for the CEO. One CEO, for example, spoke of a problem in which he was involved concerning race and ethnic relations as well as French as a second language. The problem, he noted, was "hot right now — people lined themselves up on either side and picked up rocks and now we are going to have a fight."

The political content of a problem was a basis for awarding priority among virtually all respondents in this study. Political content interacted closely with the extent to which a problem was consistent with the CEO's conception of his/her own role responsibilities. If a problem were generated by trustees or involved decision making at the elected board level, then the CEO

"owned" the problem. One director said that "problems from the political arm get the highest priority", another referred to himself as the chief spokesperson for the board and a third spoke of his commitment to the small number of priorities determined by his board each year.

Several CEOs talked about their focus on long-term problems. One noted that the decisions that he has to make are usually long range and he has to plan how to go about making them, who to involve in the process, and so on. (He did note however that he sees, immediately, irate members of the public who manage to get past the secretary, and board members who wish to consult him.) Finally, several CEOs spoke about their special attention to problems with policy implications. Such problems may also be those with high political content.

The data on which Figure 2 is based were drawn from two questions posed to the CEOs. These questions concerned their view of what were the easiest and most difficult problems which they encountered. There is some overlap between the bases identified in Figure 2 for determining problem difficulty and those bases used for awarding priority as reported in Figure 1. In particular, the portion of the school system affected by the problem and the number of people required to solve the problem were common factors in both subproblems. Problem difficulty, in the CEO's view, was affected by the likelihood of arriving at a solution that all people involved could accept, however. As one director said "the easiest one to solve is the one that has the happy ending, everybody wins". This example, in fact, hints at a common theme underlying all of the subsequent bases for determining problem difficulty. The theme is the extent to which the lives of people are touched in important ways by the problem. When this is the case, problems are viewed by CEOs as quite difficult to resolve. For example, one CEO noted how much she disliked proceedings for firing people and noted a case of a teacher who was sexually abusing children. In another case, she had to defend homosexual teachers to the board. In both cases, the intensity of emotions ran high and individual people were affected quite directly. As another director noted "the toughest one is dealing with the human problem, anything from having to deal with a staff member who is in trouble, or a student who is in big trouble, to having to deal with a problem that has got a lot of people involved, like a school

closing." In contrast "thing oriented problems" or problems that could be resolved through the application of technical know-how were seen as relatively easy, although one CEO did refer to the enjoyment she derived from solving human relations problems. Problems involving the application of technical know how included those brought by the superintendents of plant or scheduling problems from the board chairman.

Bases for Determining Problem Difficulty	Easy	Difficult
1. Likelihood of a solution all can accept	high	low
2. Intensity of emotions associated with problem	low	high
3. Extent to which problem affects individual personnel	low	high
4. Extent to which solution can be achieved through use of technical knowledge	high	low
5. Likelihood of value conflicts	low	high
6. Proportion of school system affected by problem	small	large
7. Number of people required to solve problem	one	many

Figure 2...Bases on which CEOs determine difficulty of problem

The final basis for determining problem difficulty was the likelihood of value conflicts, as with problems having high political content, for example. One CEO noted "the whole integration movement in special education, where we have a group of parents who have children who really need a highly specialized environment, but for whatever reason want their kids to be normal and so they are saying, no I want my dependently handicapped child in a regular classroom like all the other kids. You will say, with all due conscience, I cannot do that."

Figure 3 summarizes the four bases on which CEOs determined the extent to which others would be involved in solving a problem. Problem difficulty, as defined in Figure 2, was central to the determination of involvement. Problems which required immediate solutions largely cut off the possibility for much involvement of others. In some cases, it appeared that the outcomes of problem solving were less important than the fact that the problem had been addressed. For example, one CEO suggested that he solved problems alone "where it doesn't really matter what decision was made". Finally, the amount of knowledge relevant to solving the problem possessed by others also was a basis for involving those other people: a CEO indicated that she involved the people who are closest to the problem so as to be sure that she had the best information.

Several CEOs provided information about how involvement of others in solving significant problems took place. Most had a procedure for such involvement that required initial contact with a group like an administrative council. This might lead to the establishment of a special committee which would produce a report. Often this report would return either to the CEO or his/her administrative council for action.

Data concerning problem classification and management also indicated that most CEOs had a quite explicit process for such classification and management. They were self-conscious about how they managed and classified problems and they used some form of explicit method for such management. But this was not the case for all CEOs included in the study. Two directors indicated, in response to questions about their problem classification procedures, that they had none ("a problem is something that must be resolved — and it does not matter where it comes from").

Bases for Involving Others in Problem Solving	Little Involvement	High Involvement
1. Problem difficulty	low	high
2. Time available for a solution	constrained	not constrained
3. Importance of finding best solution	not important	crucial
4. Amount of relevant knowledge possessed by others	low	high

Figure 3...Bases on which CEOs determine the involvement of others in problem solving

Broad Problem Solving Strategies

Data concerning the broad problem solving strategies of CEOs addressed the overall style of CEOs, some specific strategies which they used and the role of knowledge in problem solving.

Four aspects of CEOs' overall style were highlighted by the data. The first was, in their view, an ability to put a problem in the larger perspective or to see "the big picture". One of these CEOs believed that her experience in education had been very rich and superior to that of any of her superintendents. As a consequence she was more able to "understand the implications in the stages of [child] development, the program goals, the strategies that will be used, the resources that are available — I think I see the global picture". Part of the ability to see "the big picture" was evident also in the perspective one CEO attempted to share with staff in response to their sense of crises. She said "I used to go around and make speeches to the teachers and I would say 'I wish you would quit talking about crises because I have not seen a crisis since I

arrived on this scene'. I said 'If the children are dropping dead in the halls, that is a crisis; anything else - don't call me, it is not a crisis'."

A second aspect of overall problem solving style was the reliance on collaborative problem solving. Most directors identified this as a crucial component of their style. Thirdly, most directors also believed that, in comparison with members of their staffs, they had a more direct and aggressive approach to problem solving. One reported that he liked small problems solved immediately because he wanted to get on with "the game".

In responses to a question concerning ways to ensure successful outcomes, CEOs identified several specific strategies on which they relied. Most CEOs identified "involving people in problem solving" as a crucial strategy at most points in the problem solving process. Five of the CEOs stressed the importance of careful problem analysis and interpretation. For example, one outlined the process he used as "first establishing where and with whom the problem really belongs; next is deciding if the problem is a symptom or a real problem - once that is decided the solution is probably half made."

Another specific strategy mentioned by most CEOs involved the careful collection of relevant data. This could sometimes be done informally by relying on information spontaneously offered by people within the system; but sometimes more formal methods were required ("...you should be talking first hand to the people who might possibly be involved."). The involvement of people in a collegial process was seen as an organizational strategy for ensuring that relevant data were available for the problem solving process and were used where appropriate.

Finally, delegation was a strategy used extensively by all CEOs. Such delegation began with secretaries and executive assistants. In the larger school systems, delegation was extensive to other senior officers, as well: "I have assistant directors who do all the running and who do the actual preparation of reports and the Director doesn't have to get involved in the details...". Delegation appeared to a kind of sorting sub-problem for some: "If somebody's got that

mandate, then what you do is bring it to their attention and let them deal with it rather than trying to rush in and be a Lone Ranger".

When asked about the type of knowledge that was valuable in their problem solving and how they acquired it, CEOs identified knowledge of several sorts: knowledge about the unique aspects of their own school systems and the communities served by these systems; more formal knowledge about education, instruction and the like and; knowledge about specific aspects of management including specific skills and the importance of considering such matters as organizational culture and due process. In order to acquire knowledge about the unique aspects of their systems and communities, they relied on direct experience in visiting schools, talking to staffs and interacting with local service clubs. They also relied on informants such as their superintendents and administrative assistants. To acquire more formal knowledge about education, instruction and the like they relied on professional reading, briefing papers from staff, attendance at workshops and seminars, and interaction with respected colleagues. These same strategies were relied on for knowledge about specific aspects of management. CEOs' purposes for acquiring knowledge are reasonably well illustrated by one CEO who commented "what I find is that the knowledge base required is a good knowledge of the system as a whole - without having to have a tremendous knowledge in any of the specific areas, but you had better have some good knowledge in the management skills too, no question."

Influences on CEOs' Problem Solving

Both direct and "structural" (organizational context and role) influences on CEOs' problem solving were of interest in the study. Direct influences were explored through questioning CEOs about such influences.

Direct influences. The main such influence on changes over time in CEOs' problem solving processes was the need to resolve an increasingly diverse set of problems from several perspectives. With experience as an administrator the number of completely novel problems encountered gradually diminished: most were variations on familiar themes. But the CEOs

readily acknowledged aspects of novelty in many of these problems and the importance of being sensitive to such uniqueness in order to arrive at satisfactory solutions.

Although all but one CEO believed that their problem solving processes had not changed dramatically over the years, they could also point to some important refinements in those processes. In particular, their processes had become less intuitive and more explicit and systematic. They had also become more flexible; that is, they were self-conscious about examining alternative solutions and looking at problems from multiple perspectives. In particular, one CEO in the role for two years acknowledged that having to look at problems from a political perspective, as he did now that he was CEO, was quite new for him.

The major refinement, however, in CEOs' problem solving processes appeared to be the extent to which they involved others in problem solving. One relatively new director said

> "I used a lot of consultative processes [prior to being a CEO] but I also always felt that I would be part of the decision --- I always tried to make the people I worked with know the difference between 'you're giving me some help to make the decision', as opposed to 'we are making the decision'. I am now at a point where I have to realize that I have got to let the people who now report to me do what I used to do. In other words, they are running their departments."

This CEO still found it difficult not to interfere in the decision-making process when there were problems which others could solve.

Several additional influences on the CEOs' problem solving were also mentioned by individual CEOs. Some of these influences were essentially negative in their affect: lack of clarity between the authority of the board and the director; excessive length of tenure among teachers and; the organization of the school system, which appeared to be dysfunctional for purposes of problem solving. Influences of an essentially positive nature included the willingness of local schools to make their own decisions, and the high levels of ability among staff and trustees, which eased the problem solving difficulties of the CEO.

Structural influences. There are many more similarities than differences between CEOs and elementary school principals in their problem solving. Comparison of the results reported

above with the summary of Leithwood and Stager's (1986) data, reviewed initially, makes this evident. But are differences in organizational context and role (structural influences) of any consequence for administrators? To answer this question, an explicit search for differences was conducted. Results of this search, as a note of caution, might be explained by the unique attributes of the two small samples being compared. At most, the differences point to promising areas for follow up.

One important set of differences to emerge concerned problem classification and management, specifically the determination of priorities. More than principals, CEOs awarded priority to problems with high political content, especially when that content was of interest to trustees. CEOs could also afford to devote much of their attention to long-term problems because, in most cases, a large proportion of the short-term problems were part of the mandate of others. For this reason, CEOs also appeared not to have to work as hard as principals at finding time to devote to problems which they considered "proper" to their role: Indeed, several CEOs claimed only to work at problems no one else could address, a luxury not available to especially elementary principals with access to few other staff to do administrative work.

As compared with principals, CEOs tended to report encountering fewer novel problems - possibly a function of their generally greater length and breadth of experience. Some of the novelty in problem solving that was experienced by CEOs was captured in the phrase: "...making reasonable exceptions to unreasonable rules." This phrase also suggests a more important role for board policy in the problem solving of CEOs as compared with elementary school principals.

Another difference of modest magnitude concerned the role of values in problem solving. Both groups of administrators saw an important role for their own values and could articulate such values reasonably well. Four of the eight CEOs, however, seemed to be exceptionally aware of their values and the role they played in problem solving.

A final set of differences to emerge between principals and CEOs concerned several aspects of their problem solving strategies. In terms of overall style, there appeared to be more variation among CEOs than among principals. One CEO, for example, characterized his overall problem solving style as aggressive. He suggested that:

> "I don't like to let [problems] sit or fester and I certainly won't go around in circles too many times. ...I'm sure if any of my staff were here at any level, or even the trustees, that they would probably suggest that I am reasonably aggressive. In fact, they might say that I'm a hell of a lot aggressive."

In contrast, another CEO explicitly rejected such an aggressive style even though he believed that the trustees expected him to "lead from the front". Because of other expectations also held by trustees, this CEO suggested that:

> "...what you have to do is periodically you run around in front of the pack and say 'That's the way we are going,' and then go right back and do this little stuff around here. ...as the politics of education become more virulent at the local level, there's less and less opportunity for the CEO to sort of stand and deliver."

Such variations in overall problem solving style maybe explained by differences in expectations held by others (e.g., trustees) associated with the CEO. Variations may be explained by differences in CEO preferences and skill, as well. While data from this study do little to clarify sources of this variation, they are consistent with other data on expert problem solving in the social sciences which Voss (1982) claims is, to a large degree, a function of the problem area. Not many problems confronting CEOs have agreed upon solutions; hence, there is considerable room for variation in CEOs' performances.

The problem solving strategies of expert principals and CEO's also differed with respect to the amount of problem-relevant knowledge considered necessary and sources of such knowledge. Whereas both groups of administrators highly valued problem-relevant knowledge and were diligent in its collection, CEO's knowledge requirements were decidedly more extensive if not more complex. This was the case for knowledge about characteristics of their own organizations as well as knowledge of relevant issues influencing the administration of their organizations in the future. In relation to their own organizations, CEOs cited the need to know

about the student clientele, staff, policies and procedures, programs, the community, trustees, the political process and school system resources. One CEO spoke at length about the importance of knowing about the school system's culture - informal communication networks and the like. The one retired CEO in the sample suggested that:

> "I spent most time as director keeping up with information, reading, fast reading, and agendas. ...going to meetings, going out in the schools, all those things that allowed me to keep informed enough to solve the problems."

Four CEOs explicitly referred to personal reading, courses and workshops as important sources of knowledge for them in remaining current about a broad range of educational issues that might impact on their organizations in the future. The importance awarded to these "formal" sources of knowledge is in contrast to the more informal sources (other peers, consultants, teachers) emphasized by expert principals.

In sum, it appears that organizational context and role - structural influences - help explain important features of CEO's problem solving.

Discussion

The information processing orientation used to guide this study drew special attention to the importance of distinguishing ill- from well-structured problems; much less is known about how ill-structured problems are solved. This orientation also suggested an important role for "domain-specific" knowledge and the context in which problems are solved as bases for understanding problem solving processes.

Most of the data in the study concerned ill-structured problems. Almost by role definition, it seems, these are the problems typically confronting CEOs, as well as senior executives in other types of organizations. While no algorithms exist for solving such problems, CEOs in this study had developed a repertoire of procedures, in some cases, for adding structure and, in others, compensating for its absence. These procedures included continuously working to build a broad base of knowledge to assist in problem diagnosis and interpretation: such "diagnostic

information seeking" was one of eight generic senior management competencies also identified in research by Klemp and McClelland (1986).

Using this information base, CEOs initially screened problems (or had them screened) in order to decide "who owns them". This procedure appeared to transfer a very large proportion of encountered problems to someone else for solution, thereby leaving the CEO time to devote to problems which they considered appropriate to their role. This activity on the part of CEOs is consistent with the claim made by some that finding and defining the right problems to work on is a crucial strategic, executive function (Kolb, 1984).

When a problem was judged to belong to the CEO, others considered to have relevant knowledge were called upon to assist in clarifying the components of the problem and specific actions that might be taken toward a solution. This procedure compensated for the limitations on human information processing, as discussed by Shulman and Carey (1984), while at the same time locating at least what knowledge there was relevant to a solution within the organization.

The procedure of extensively involving others also acknowledged the social nature of CEO's problems. For the most part, the interpretation of such problems and what constituted an appropriate solution were matters of perception. Social problem solving is, as much as anything else, a matter of building agreements among people regarding their perceptions. Such agreement building can take place through the participation of those who must agree from the early stages of deciding on the nature of the problem through to the implementation of a solution: called "collaborative influence", such activity is indicative of a second generic executive competence identified by Kemp and McClelland (1986), as well. There are rarely right or wrong solutions - only courses of action people accept as appropriate, given their sense of the situation. These courses of action are often judged to be appropriate not because one is able to predict their consequences: after all, these are not routine problems. Rather, actions are judged appropriate because they seem consistent with a set of values to which many people in the situation adhere. If there is a cycle of activities associated with such problem solving, their sequencing is flexible

and seems likely to be iterative until acceptable levels of agreement are reached. This view of CEO's problem solving is consistent with Weick's (1984) assertion that:

> "Decisions are not made at specific points in time, they accrete --- linear models and step models have only modest relevance to everyday thinking. Even if people tried to implement them, they would find them foreign to what they are trying to do (p. 240)."

Results of the study suggest, in addition, that even in the case of ill-structured, knowledge-lean problems, knowledge is crucial to problem solving. But it is a different kind of knowledge than is referred to in relation to well-structured problems. The relevant knowledge is not so much about solutions or components of solutions but about the background and circumstances within which the problem must be solved: it is also knowledge about the values with which a solution will need to be consistent and who holds those values.

Results of the study also appear to extend the meaning given to "context" by those working from an information processing orientation. Within this orientation, the term "context" usually refers to problem solving alone or with others. Most CEO problem solving in this study involved others and data from the study are primarily limited to such a context. However, other elements of context appear to affect social problem solving. This was clearest in the comparison of problem solving among expert elementary school principals and CEOs. Unlike principals, CEOs worked in a context in which there was relatively extensive administrative support, often lengthy time lines for arriving at a solution and tight linkages between CEOs and their political masters. These contextual features permitted CEOs, unlike principals, extensive delegation as a problem solving strategy, ready access to resources for information collection (which substantially reduces the risk of failure) and a clear priority for problems with high political content.

The substantial influence of this extended view of context is consistent with the results of research conducted in organizations outside education. "Executives minds", claims Kolb (1984), "are shaped by their organizations and their positions in them - by the values, norms and climate created there and the mind sets that are rewarded (p. 137)." Such a finding in no way

underestimates the importance of personal will and capacity: it simply acknowledges that executives "realities" like those of others are socially constructed.

Conclusion

While the uses to be made of this study are modest given the sample size and the amount of data available from each CEO, further inquiry building on the results seems warranted. Clearly, the way CEOs think about their problems is similar in many respects to the thinking of elementary school principals and senior executives in other organizations. But there are significant differences and further exploration of such differences seems a useful strategy for better understanding the relative effects of organizational context and role on CEO's problem solving.

The present study uncovered some of the broad strategies used by CEOs in solving unstructured problems. Little was revealed, however, about their more detailed tactics or procedures. Further research designed to better appreciate these more detailed processes would also be helpful.

Finally, this study as well as parallel research on principals' problem solving suggests a crucial role for values in solving ill-structured problems; Leithwood and Stager (1987) claim that they are substitutes for knowledge. As yet we know little about the nature of CEOs' values and their relationship to action. This, too, seems like a promising focus for future research.

Notes

1. An earlier version of this paper was presented at an invitational conference on the Chief School Officer, Centre for Executive Studies, OISE, Toronto, June 1988. I am indebted to Mary Stager who collected the data reported in this paper, to Joyce Scane who completed the initial summary of the data, and to Betty Donaldson who independently reanalyzed and summarized the data, partly to ensure the reliability of the analysis.

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